HEADACHE AS A SYMPTOM.*

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THERE is probably no single symptom to which humanity is subject more common than headache, and none which incapacitates one for mental work so completely; and it would indeed be a most interesting symposium, "Headache as a Symptom," presented by the neurogologist, the gynecologist, the specialist on the digestive organs and the ophthalmologist.

From such sources, where careful observation had been exercised, a classification of headaches could be made which would be of exceedingly great value to the general practitioner as well as to the specialist. Then the oculist would not think it possible to relieve every headache by the use of lenses or the treatment of the eyes, and the general practitioner would the more frequently refer his headache patients to some fellow physician, but with greater discrimination than is now generally used.

Headache is a symptom occurring in the course of a great variety of diseases. Organic cerebral diseases, congestion and anemia of the brain, functional nervous disorders, toxemic conditions, disturbances in the digestive tract, uterine and ovarian troubles.

The character of the pain varies greatly; it may be superficial or deep, constant or paroxysmal, general or local, dull or heavy, sharp or throbbing.

Prof. J. C. Wilson, of Philadelphia, gives the following classification for the etiological causes of headache:

1. **Reflex irritations—a, the eye; b, the nose; c, the teeth; d, the ear; e, the reproductive organs.**
2. **Toxemia—a, infectious diseases; b, autointoxication; c, drugs—opium, alcohol, quinine; d, poisons—lead, tobacco, tea, coffee.**
3. **Disturbances of circulation—a, congestions; b, anemia; c, arterial changes.**
4. **Neuroses—a, epilepsy; b, hysteria; c, neurasthenia.**
5. **Organic diseases—a, syphilis; b, meningitis,** etc. (1.)

Probably the great majority of headaches have a multiple origin; at the same time it is also most probable that the correction of errors of refraction and the treatment of muscular unbalance, when either exist, will give much relief to a greater number and variety of headaches of not strictly ocular origin than any other single mechanical or medical proceeding; but this fact would not justify one in treating headache from typhoid fever by glasses and, on the other hand, it would be too absurd for any physician to repeatedly give phenacetin, antipyrin, acetanalid, or the "headache tablets" of the trade to relieve headaches which are manifestly of ocular origin, and it is of these that I wish to write.

It is altogether probable that ophthalmologists sometimes magnify the effects produced by errors of refraction, but it is certainly true that such refractive defects are responsible for a large proportion of headaches and for other reflex disturbances. Very many neurasthenics who come across the continent in search of health have errors of refraction and frequently these are the largest factors in their breakdowns.

In opening the discussion upon headaches and their treatment at the 67th annual meeting of the British Medical Association, Lauder Brunton *(British Medical Journal,* Nov. 4, 1899) said:

In all cases of headache the first thing to do is to examine the teeth and see if they are decayed; next the eyes and see if there be any abnormality in them. The most common cause of headache is certainly some abnormality in the eyes.

He considers two factors to be active in the production of headache: First, a general condition with disordered or imperfect nutrition; second, a local condition. The former condition renders the person liable to pain, the latter determines the location of the pain, and this determining factor is most often decayed teeth or defective eyes. (2.)

Pain in back of neck, described as pulling, drawing, or a tense feeling radiating down the back and to the shoulder, and frequently more prominent on one side than the other, is present in about 80% of all cases of refractive errors. It is almost pathagnomonic of eye-strain, and it rarely fails to disappear with the correction of the visual error. (3.) Personally, I have found this symptom a continuation downward of the occipital headaches and nearly always preceded or accompanied by a frontal or temporal headache.

I believe that the eye is a factoral element in fully 60% of all headaches, and that it is the chief factor in about 80% of all headaches of the fronto-temporal variety. How do we recognize eye headaches? There are several factors to be taken into consideration: First, the occupation of the individual; second, the time of day or night when the headache makes its appearance; third, the location of the discomfort; and, fourth, the character of the pain. In reference to the locality, the order of frequency of ocular headaches appears to be, first, frontal; second, deep orbital; third, temporal; fourth, occipital; fifth, sick headaches. The occipital seldom appears by itself when a manifestation of eye-strain. Headaches of ocular origin are more frequently dull and heavy, rather than very sharp and, when not due to a diseased condition, are found in those people who make considerable use of the muscles of accommodation and convergence.

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When you find a patient complaining of headaches after riding on the cars, after going to a place of amusement such as the theatre or opera, or even church, or after shopping, you will be tolerably safe in suspecting the eyes, and in sending such an one to an oculist.

When headaches occur as a result of eye defects, they nearly always make their appearance within a few hours after the eyes have been taxed, but sometimes they are postponed until the next day, especially when the eyes have been used to a considerable extent at night.

The headache which most resembles ocular headache is that arising from intranasal irritation or disease such as hyperemia or pyemia of the frontal or maxillary sinuses; but with these diseases, however, there is usually more or less nasal discharge which would lead one to be suspicious of the origin, while with ocular headaches one is very likely to find more or less itching, smarting and burning of the lids, with angular irritation of the conjunctiva, photophobia and muscæ-volitantes.

In patients subject to sick headaches, it is always wise to look for eye symptoms, for when found (and they are in about 60% of those afflicted) the correction of the defects leads to an amelioration and frequently a cure.

There are some headaches which are so infrequently the result of eye errors that they should never be sent to the oculist until all other means for their relief have been tried without benefit. The neurotic or nervous headache may or may not be accompanied by refractive errors, but when it is the correction seldom gives permanent relief.

Headaches which occur in the night time are certainly not of ocular origin, and one may feel justified in diagnosing some extra-ocular cause, even where other eye symptoms be present, especially when it is not possible to use the eyes without discomfort, if the headache in question wakes the patient up after he has retired and the lights have been extinguished. (4.)

Small errors of astigmatism are the most common causes of ocular headaches, hyperopia and even myopia are not uncommon elements in these most uncomfortable symptoms, and heterophoria may at times be the only element in their production.

Mr. W. A. Braily (Guy's Hospital) read a paper on "Ocular Headaches," in which he said it is a general law that the greater the error of refraction the less the effect on the head, because a great defect leads to abandonment of the effort of accommodation, the patient seeing as best he can without it. Uncorrected presbyopia is a rare cause of headache, except just at its commencement. It might cause strain and burning but not headache. Similarly great inequality of refraction gives comparatively little trouble, the worse eye being unused. (5.)

The mechanism of extra-cranial headaches is not particularly difficult to explain, but the modification of function as manifested in intracranial pains, with which this paper deals, has always puzzled pathologists and, in fact, has not yet been satisfactorily described.

Why do we have headache as the result of eye-strain? Lucien Howe presents an explanation of how eye-strain causes headache—by the term "eye-strain" he means the pain experienced by some persons when reading, sewing or doing other near work. This pain may be referred to the eye itself, the forehead, or some part of the head, or possibly even to the shoulders. The proposition which he seeks to prove is that these pains are due directly to some muscular contraction.

According to the theory of Helmholz, the ligament of Zinn is tense when the eye is at rest and relaxes more and more in proportion to the degree of accommodation. A better explanation has been offered recently by Professor Tscherning. This observer contends that the act of accommodation is not altogether passive, as Helmholtz believed, and that on looking at a near point the ciliary muscle is contracted. This draws the edges of the lense, bends the central portion of the anterior surface further forward, and makes the lense more convex. On this theory, that near vision is entirely an active muscular effort, it is not difficult to explain the pain in the eyes which sometimes constitutes the first feature of ocular headaches. Moreover, a certain amount of accommodation always means a certain degree of convergence of the visual axes which implies tension of the internal recti, and also, to a certain extent, of the superior and inferior recti.

The accessory muscles of the forehead and head are called into action when any special effort is required to maintain accommodation, and it is the tension of these accessory muscles which gives rise to the headache. The occipito-frontalis is an important muscle in this respect, and both the anterior and posterior portions are subjected to strain in connection with a special effort to maintain accommodation. This explains the frontal and occipital headaches. (6.)

Casey Wood, referring to supra-orbital headaches due to ciliary strain, traces the reflex arc back to the ocular motor nucleus and adjacent trigeminus nucleus from which it is reflected to the terminations of the fifth nerve. (7.)

Headache is common in cases of nerve exhaustion proceeding from almost any cause, and particularly from prolonged mental effort or worry. It may be a result of anemia, and is then

commonly frontal; or may be due to congestive states of the brain resulting from heart disease, asthma and other forms of dyspnea. In these latter cases it is throbbing in character, and as in nearly every other variety of headache is increased by stooping, coughing or any other condition which tends to increase the congestion.

Toxic headaches are frontal and deep seated, and sometimes very severe. Secondary syphilitic headache is neuralgic and limited to the temples.

Headaches resulting from stomachic or hepatic derangements are usually occipital or vertical, but may be frontal or general. In neurasthenic patients the general conditions are such that headaches may result from errors of refraction which in health would have caused no trouble. Such a headache, once established, may in itself further disturb the nervous equilibrium of the patient. In this class of cases the good effects of properly adjusted glasses, by relieving the patient of a disagreeable symptom, may be very great. This "ocular headache" must not be confused with the "neurasthenic headache," which is possibly toxic in origin and continues after every source of peripheral irritation has been removed. Neurasthenic headache is very intractable to treatment by drugs, and a suitable climatic condition is of much value in bringing about a cure. In tuberculous patients ocular headaches may have a bad influence upon the general condition. The pain and discomfort bring about a depressed mental condition and there follows loss of appetite and indisposition to go out of doors, with resulting bad effect upon the general health. A routine examination of the eyes of all neurasthenic patients is to be recommended, and in cases of chronic disease where ocular defects may be the cause of headache and other disturbances which have an unfavorable influence, the possibility of learning something by the examination of the eyes which may be of value, should not be forgotten. (2.)

Dr. F. Windscheid, of Leipsic, in an article on headaches, states that in no ailment must the causal indication be so closely adhered to as in headache.

As Dr. Collins states, the treatment of headache accompanying the infectious diseases can best be remedied by combatting the cause. The treatment of those arising from drugs consists in the discontinuance of those preparations taken therapeutically—mineral or vegetable—proper care when required by occupation to come in contact with the metals, such as lead, mercury, etc., and the promotion of the elimination of any poison which may be in the system. But, aside from these cases where the treatment is etiological, there are a variety of idiopathic forms which require special treatment. (8.)

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COMMUNICATION.

Some Further Remarks on Dr. Sherman's Paper Published in August Journal.

To the California State Journal of Medicine:—In your last issue, I see that Dr. Tait's discussion of Dr. Sherman's paper, "An Unusual Infection Causing Acute Suppurative Appendicitis," was published, whereas my discussion of the same was not. I should like it, therefore, if you would publish my remarks, as perhaps answering some of Dr. Tait's contentions.

Dr. Tait's idea that the specimens were exposed to the air for an hour before taking the cultures, is certainly erroneous. The appendix, and later the gauze drain, were brought to our laboratory wrapped in many layers of sterile gauze and surrounded with gutta percha tissue. Cultures were made immediately. Fifty colonies of Friedlander's bacillis developed in the first culture tube. Certainly if we should suspect contamination, it is rather remarkable that we should not have had a bacterium more ordinarily found from contamination. Also, it is still more remarkable that the second culture made from the same case should also have shown 40 colonies of Friedlander's bacillis.

That Dr. Sherman's conclusions should have been "most probably entirely negatived," I think is contradicted pretty strongly by the fact that the patient's blood gave an agglutination reaction with the bacillis of Friedlander in dilution, of one to forty. This is certainly good evidence that the patient was suffering from an infection with Friedlander's bacillis.

I think that more attention has been given to the anerobic bacteria than Dr. Tait realizes; and I also think that the reason that this work has not been reported, is because of the negative results obtained.

It is true that Dr. Veillon has found a number of anerobic bacteria in such lesions as otitis media, appendicitis, etc., but it remains for him to prove conclusively that these organisms are pathogenic, and that they cause these lesions; and are not simply there as contamination, so to speak, since the sites from which these bacteria have been isolated are, almost all, parts of the body in direct communication with the external air. It also remains for other observers to confirm his work.

As far as the bearing of Dr. Veillon's work on Dr. Sherman's case is concerned, Dr. Veillon has found his anerobic bacteria in the gangrenous cases, and Dr. Sherman's case certainly does not belong to that group.

Of the few anerobic bacteria whose pathogenicity has been established, I do not think there is any reasonable evidence that any of them may have been factors in the case.

In conclusion, I should like to say that the methods pursued in this case are those pursued in the vast majority of similar cases, both here and abroad, and it remains for some one to prove that other methods are necessary before such methods will be adopted.

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